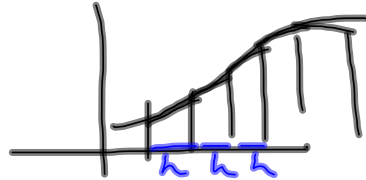


## Review 23 Trapezoidal Rule

$$T = \frac{h}{2} [y_0 + 2y_1 + 2y_2 + \dots + 2y_{n-1} + y_n]$$

equal subintervals

$$h = \frac{b-a}{n}$$



unequal subintervals

$$\bar{T} = \frac{h_1}{2}(y_0 + y_1) + \frac{h_2}{2}(y_1 + y_2) + \dots$$



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$$\text{Trap} \approx \int_a^b f(x) dx$$

Ex 2

t	0	1	2	3	4	...	9	10
v	0	6	10	16	14		4	2

$$\int_0^{10} |v| dt = \int_0^{10} v dt$$

$$\approx \text{Trap} = \frac{1}{2} [0 + 2 \cdot 6 + 2 \cdot 10 + 2 \cdot 16 + \dots + 2 \cdot 4 + 2]$$

$$h = \frac{b-a}{n}$$

$$h = \frac{10-0}{10}$$

$$h = 1$$

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